

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51 and 96

[EPA-HQ-OAR 2003-0053; FRL -]

RIN 2060 -

Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule): Supplemental Notice of Reconsideration

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of reconsideration; request for comment; notice of opportunity for public hearing.

SUMMARY: On May 12, 2005, EPA published in the Federal Register the final "Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone" (Clean Air Interstate Rule or CAIR). The CAIR requires certain upwind States to reduce emissions of nitrogen oxides (NOx) and/or sulfur dioxide (SO2) that significantly contribute to nonattainment of, or interfere with maintenance by, downwind States with respect to the fine particle (PM2.5) and/or 8-hour ozone national ambient air quality standards (NAAQS). Subsequently, EPA received 11 petitions for reconsideration of the final rule. Through Federal Register notices dated August 24, 2005 and December 2, 2005, EPA previously initiated reconsideration processes on five specific issues

in the CAIR and requested comment on those issues. In this notice, EPA is announcing its decision to reconsider one additional specific issue in the CAIR and is requesting comment on that issue.

The specific issue addressed in today's notice relates to the potential impact of a recent D.C. Circuit Court decision, New York v. EPA, 413 F.3d 3 (D.C. Cir. 2005), on the analysis used in developing CAIR to identify highly cost-effective emission reductions. This court decision vacated the pollution control project (PCP) exclusion in the New Source Review (NSR) regulations (the exclusion allowed certain environmentally beneficial PCPs to be excluded from certain NSR requirements).

The EPA is seeking comment only on the aspect of the CAIR specifically identified in this notice. We will not respond to comments addressing other provisions of the CAIR or any related rulemakings.

DATES: Comments must be received on or before February 16, 2006. If requested, a public hearing will be held on January 17, 2006 in Washington, D.C. For additional information on a public hearing, see the SUPPLEMENTARY INFORMATION section of this preamble.

ADDRESSES: Submit your comments, identified by Docket ID

No. EPA-HQ-OAR-2003-0053, by one of the following methods:

- www.regulations.gov: Follow the on-line instructions for submitting comments. Attention Docket ID No. EPA-HQ-OAR-2003-0053.
- Email: A-and-R-Docket@epa.gov. Attention Docket ID No. EPA-HQ-OAR-2003-0053.
- Fax: The fax number of the Air Docket is (202) 566-1741. Attention Docket ID No. EPA-HQ-OAR-2003-0053.
- Mail: EPA Docket Center, EPA West (Air Docket), Attention Docket ID No. EPA-HQ-OAR-2003-0053, Environmental Protection Agency, Mailcode: 6102T, 1200 Pennsylvania Ave., NW, Washington, DC 20460.
- Hand Delivery: EPA Docket Center (Air Docket), Attention Docket ID No. EPA-HQ-OAR-2003-0053, Environmental Protection Agency, 1301 Constitution Avenue, NW, Room B102; Washington, D.C. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2003-0053. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including

any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment.

Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>. For additional

instructions on submitting comments, go to the **SUPPLEMENTARY INFORMATION** section of this document.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute.

Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in www.regulations.gov or in hard copy at the EPA Docket Center (Air Docket), EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744.

FOR FURTHER INFORMATION CONTACT: For general questions concerning today's action as well as questions concerning the analyses described in section III of this notice, please contact Meg Victor, U.S. EPA, Office of Atmospheric Programs, Clean Air Markets Division, Mail Code 6204J, 1200 Pennsylvania Avenue, NW, Washington, DC, 20460, telephone (202) 343-9193, e-mail address victor.meg@epa.gov. For legal questions, please contact Sonja Rodman, U.S. EPA,

Office of General Counsel, Mail Code 2344A, 1200 Pennsylvania Avenue, NW, Washington, DC, 20460, telephone 202-564-4079, e-mail address rodman.sonja@epa.gov. For information concerning a public hearing, please contact Jo Ann Allman, U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Strategies and Standards Division, Mail Code C539-02, Research Triangle Park, NC 27711, phone number (919) 541-1815, e-mail address allman.joann@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this Action Apply to Me? The CAIR does not directly regulate emissions sources. Instead, it requires States to develop, adopt, and submit State implementation plan (SIP) revisions that would achieve the necessary SO₂ and NO_x emissions reductions, and leaves to the States the task of determining how to obtain those reductions, including which entities to regulate.

B. What Should I Consider as I Prepare My Comments for EPA?

Note that general instructions for submitting comments are provided above under the ADDRESSES section.

1. Submitting CBI. Do not submit this information to EPA through www.regulations.gov or e-mail. Clearly mark the part or all of the information that you claim to be CBI.

For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. Send or deliver information identified as CBI only to the following address: Roberto Morales, U.S. EPA, Office of Air Quality Planning and Standards, Mail Code C404-02, Research Triangle Park, NC 27711, telephone (919) 541-0880, e-mail at morales.roberto@epa.gov, Docket ID No. EPA-HQ-OAR-2003-0053.

2. Tips for Preparing Your Comments. When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, Federal Register date and page number).
- Follow directions - The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or

section number.

- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

II. Public Hearing.

If requested, EPA will hold a public hearing on today's notice. The EPA will hold a hearing only if a party notifies EPA by January 10, 2006, expressing its interest in presenting oral testimony on issues addressed in today's notice. Any person may request a hearing by calling Jo Ann Allman at (919) 541-1815 before 5:00 p.m. on January 10, 2006. Any person who plans to attend the hearing should visit the EPA's website at www.epa.gov/cair or contact Jo

Ann Allman at (919) 541-1815 to learn if a hearing will be held.

If a public hearing is held on today's notice, it will be held on January 17, 2006 at EPA Headquarters, 1310 L Street (closest cross street is 13th Street), 1st floor conference rooms 152 and 154, Washington, D.C. The closest Metro stop is McPherson Square (Orange and Blue lines) -- take 14th Street/Franklin Square Exit. Because the hearing will be held at a U.S. government facility, everyone planning to attend should be prepared to show valid picture identification to the security staff in order to gain access to the meeting room.

If held, the public hearing will begin at 10 a.m. and end at 2 p.m. The hearing will be limited to the subject matter of this document. Oral testimony will be limited to 5 minutes. The EPA encourages commenters to provide written versions of their oral testimonies either electronically (on computer disk or CD-ROM) or in paper copy. The public hearing schedule, including the list of speakers, will be posted on EPA's website at www.epa.gov/cair. Verbatim transcripts and written statements will be included in the rulemaking docket.

A public hearing would provide interested parties the opportunity to present data, views, or arguments concerning

issues addressed in today's notice. The EPA may ask clarifying questions during the oral presentations, but would not respond to the presentations or comments at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as any oral comments and supporting information presented at a public hearing.

All written comments must be received by EPA on or before February 16, 2006. Because of the need to resolve the issues in this document in a timely manner, EPA will not grant requests for extensions of the public comment period.

III. Availability of Related Information

Documents related to the CAIR are available for inspection in Docket No. EPA-HQ-OAR-2003-0053 at the address and times given above. The EPA has established a website for the CAIR at <http://www.epa.gov/cleanairinterstaterule> or more simply <http://www.epa.gov/cair/>.

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I. Background

On May 12, 2005, the EPA (Agency or we) promulgated the final "Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone" (Clean Air Interstate Rule or CAIR)(70 FR 25162). As explained in the CAIR preamble and

summarized in our December 2, 2005 reconsideration notice (70 FR 72268), CAIR requires 28 States and the District of Columbia to revise their State implementation plans (SIPs) to include control measures to reduce emissions of SO₂ and/or NO_x. Sulfur dioxide is a precursor to PM_{2.5} formation and NO_x is a precursor to PM_{2.5} and ozone formation. By reducing upwind emissions of SO₂ and NO_x, CAIR will assist downwind PM_{2.5} and 8-hour ozone nonattainment areas in achieving the NAAQS. As also described in the December 2005 reconsideration notice, the CAIR was promulgated through a process that involved significant public participation (70 FR 72271).

Following publication of the final CAIR on May 12, 2005, the Administrator received eleven petitions requesting reconsideration of certain aspects of the final rule. The complete petitions are available in the docket for the CAIR.¹ The petitions were filed pursuant to section

¹ Petitions for reconsideration were filed by: State of North Carolina (OAR-2003-0053-2192); FPL Group (OAR-2003-0053-2201); Florida Association of Electric Utilities (OAR-2003-0053-2200); Entergy Corporation (OAR-2003-0053-2195 and 2198 (attachment 1)); Massachusetts Department of Environmental Protection (OAR-2003-0053-2199); Integrated Waste Services Association (OAR-2003-0053-2193); Texas Commission on Environmental Quality (OAR-2003-0053-2212); Northern Indiana Public Service Corporation (OAR-2003-0053-2194 and 2213 (supplemental petition)); City of Amarillo,

307(d)(7)(B) of the CAA. Under this provision, the Administrator is to initiate reconsideration proceedings if the petitioner can show that an objection is of central relevance to the rule and that it was impracticable to raise the objection to the rule within the public comment period or that the grounds for the objection arose after the public comment period but before the time for judicial review had run.

The EPA has already initiated a reconsideration process on five specific aspects of the final CAIR. On August 24, 2005 (70 FR 49708) and on December 2, 2005 (70 FR 72268), we published in the Federal Register notices announcing these decisions to reconsider specific aspects of the CAIR and requesting comment on those issues. Today's notice announces EPA's decision to reconsider one additional issue raised in a petition for reconsideration and requests comment on that additional issue.

By a letter dated December 22, 2005 we informed a petitioner of our intent to grant reconsideration on an

Texas, El Paso Electric Company, Occidental Permian Ltd, and Southwestern Public Service Company d/b/a/ Xcel Energy (OAR-2003-0053-2196 and 2197 (attachment 1) and 2205-2207 (attachments 2-4)); Connecticut Business and Industry Ass'n (OAR-2003-0053-2203); and Minnesota Power, a division of ALLETE. Inc. (OAR-2003-0053-2212).

issue addressed in their petition for reconsideration. We indicated in that letter that we would initiate the reconsideration process by publishing this notice.

II. Today's Action

A. Grant of Reconsideration

In this notice, EPA is announcing its decision to grant reconsideration on one issue raised in the petitions for reconsideration. This notice initiates that reconsideration process and requests comment on the issue to be addressed. Given the intense public interest in this rule, EPA has decided to provide this additional opportunity for public comment. At this time, however, EPA does not believe that any of the information submitted to date demonstrates that EPA's final decisions were erroneous or inappropriate. Therefore, we are not proposing any modifications to the final CAIR.

The issue on which EPA is requesting comment relates to the potential impact of a recent judicial opinion on the highly cost-effective analysis prepared by EPA in developing the CAIR. This case, New York v. EPA, 413 F.3d 3 (D.C. Cir. 2005) was decided on June 24, 2005 -- after the final CAIR was published but before the time for judicial review of the rule had run. This issue is described in greater detail in

Section III of this notice.

The EPA is requesting comment only on the issue specifically described in Section III. We are not taking comment on any other provisions in the CAIR or otherwise reopening any other issues decided in the CAIR for reconsideration or comment.

B. Schedule for Reconsideration

For the issue addressed in this notice, EPA expects to take final action on reconsideration by March 15, 2006. By that date, EPA will finalize the process of reconsideration by issuing a final rule or proposing a new approach. EPA also expects, by March 15, 2006, to issue decisions on all remaining issues raised in the petitions for reconsideration.

III. Impact on CAIR Analyses of D.C. Circuit Decision in New York v. EPA

A. Background on New York v. EPA and its Relationship to CAIR

One industry petitioner claims that a recent opinion of the D.C. Circuit raises questions about the sufficiency of EPA's analysis prepared for the CAIR to identify highly cost-effective emission reductions. The petitioner argues that EPA should reconsider this analysis to take into

account the potential impact of the decision in New York v. EPA, 413 F.3d 3 (D.C. Cir. 2005). This judicial opinion was issued on June 24, 2005 -- after the final CAIR had been promulgated, but within the 60 days provided by CAA section 307(b) for filing of petitions for review.² Among other things, the opinion vacated a provision of the New Source Review (NSR) regulations, commonly known as the pollution control project (PCP) exclusion. All pending petitions for rehearing of the case were denied by the Court on December 9, 2005. The EPA's request that the Court clarify its holding with regard to any retroactive effect of its ruling on the PCP issue was also denied. The Court determined that this clarification request was premature because no specific retroactive application of the provision was before the Court. The time for filing Petitions for Certiorari with the United States Supreme Court has not yet run. The analysis that follows looks at the potential impact of the New York v. EPA decision.

² CAA section 307(d)(7)(B) provides that the Administrator shall convene a proceeding for reconsideration if the person raising an objection can show that: it was impracticable to raise the objection during the period for public comment or the grounds for the objection arose after such period but within the time specified for judicial review; and the objection is of central relevance to the outcome of the rule.

The PCP exclusion provided a mechanism for sources to exclude certain environmentally beneficial PCPs from the definition of "major modification" under Prevention of Significant Deterioration (PSD)/NSR³ even though the PCP resulted in a significant net emissions increase in a collateral pollutant (e.g., increase in NOx from flaring VOCs). This exclusion could only apply if the owner or operator, before beginning construction of the PCP, either provided notice to the Administrator (for certain projects listed in the regulations) or submitted a permit application to obtain approval to use the exclusion. If the exclusion were found not to apply, the source would either have to ensure that the PCP did not result in a significant net emissions increase in a collateral NSR-regulated pollutant (and thus avoid NSR review), or apply for and receive a NSR permit for the project. Petitioner asks EPA to reconsider whether EPA's highly cost effective analysis "continues to be valid given the court's holding in [New York v. EPA]."

³ PSD is the part of the NSR program that applies to sources located in areas in attainment with the NAAQS. Unless otherwise noted, in this notice, when we refer to the NSR program, NSR review, NSR permitting or other NSR requirements, we are referring to both the NSR and PSD programs and their respective requirements.

More specifically, Petitioner claims that CAIR sources will need to go through NSR permitting and that additional time and financial costs will be required for this permitting. Petitioner does not specify which projects it believes might require NSR permitting or what collateral increases in NSR-regulated pollutants it expects. Petitioner also claims that additional time will be necessary for NSR permitting and that therefore the compliance deadlines of January 1, 2009 and 2010 are "in jeopardy." Petitioner, however, does not ask EPA to reconsider the 2009 and 2010 compliance deadlines. As noted above, this notice grants reconsideration only on the issue of the impact of the New York v. EPA decision on EPA's highly cost effective analysis.

In developing the CAIR, EPA conducted extensive analyses to identify highly cost-effective SO₂ and NO_x emissions reductions based on controlling EGUs. These analyses are explained in the preamble to the CAIR (70 FR 25202-25212). The EPA has reviewed the petition for reconsideration and analyzed the potential impact of New York v. EPA on the CAIR cost-effectiveness determination and timing. This analysis indicates that some EGUs that install SO₂ and/or NO_x controls for CAIR may incur relatively minor additional costs and minor impacts on timing as a result of

New York v. EPA, but these potential impacts will neither affect the highly cost-effective determination that the Agency made in CAIR nor impact the timeframe for CAIR reductions. The EPA's analysis further shows that options exist that would allow units to meet the CAIR deadlines without changing plans to stagger PCP projects (sources will not be forced to install all PCPs at one time) and that the related costs would not alter the highly cost effective analysis done for the final CAIR. The EPA invites comments on this analysis and the potential impact of the New York v. EPA decision on EPA's highly cost-effective determination. EPA's analysis of this issue is summarized below and supplemental information is in the CAIR docket.

In order to evaluate the petitioner's claim, the Agency examined the potential for collateral increases in NSR-regulated air pollutants from the types of NOx and SO2 controls on which EPA based its CAIR cost-effectiveness determination.⁴ The EPA identified which of these technologies could have the potential to cause collateral increases in NSR-regulated air pollutants. The EPA then

⁴ All references to "collateral increases" in this document refer to potential collateral increases in NSR-regulated air pollutants.

analyzed whether sources could mitigate any such collateral increases to avoid NSR review and analyzed the cost and timing impacts associated with potential mitigation measures. The EPA determined that projected collateral increases in NSR-regulated pollutants that might be significant enough to trigger an NSR threshold could be mitigated by many sources wishing to avoid the NSR permitting process. However, some sources may not be able to ensure mitigation of all collateral increases. Therefore, the Agency also analyzed the impacts associated with NSR permitting for these NO_x and SO₂ pollution control projects.

The EPA considered each of the NO_x and SO₂ control measures that were included in the CAIR cost-effectiveness determination and found that the following technologies may have the potential to cause collateral increases in air pollutants regulated under NSR: combustion controls, selective catalytic reduction (SCR), flue gas desulphurization (FGD), and fuel switches to low sulfur coal. Many affected sources can choose to implement measures to mitigate the potential collateral emission increases (thereby obviating the need to undertake NSR analysis).

The Agency determined that some cost increases will

result from actions that sources may take to mitigate collateral increases that result from CAIR control actions; however these impacts do not alter the final highly cost effective determination made in the final CAIR. In addition, implementing these control actions will not affect the feasibility of implementing the CAIR reductions in the required timeframe.

Further, if some sources apply for an NSR permit, the Agency believes that the impacts of NSR permitting will not affect the CAIR highly cost-effectiveness determination or the CAIR timeline. Note that in today's notice the Agency is not making any determination or prediction regarding what the specific NSR requirements might be for such projects.

The EPA's analysis for each of these NO_x and SO₂ controls is discussed below and in a Technical Support Document (TSD) available in the docket entitled "Technical Support Document: Impact on CAIR Analyses of D.C. Circuit Decision in New York v. EPA."

B. Potential Impact of Collateral Pollutant Increases and Mitigation Measures

1. Increases in Sulfuric Acid Emissions from SCR Retrofits⁵

⁵ This SCR discussion is focused on the potential for sulfuric acid emission increases from SCR retrofits. Note

Many CAIR units are projected to install selective catalytic reduction (SCR) to reduce NO_x emissions. The SCR catalyst oxidizes a portion of the SO₂ present in flue gas to SO₃. The amount of SO₃ added to the flue gas stream by SCR will be directly proportional to the fuel sulfur content. (Note that SO₂ is also oxidized to SO₃ in the boiler itself.)

Some SO₃ reacts with moisture in the flue gas to form sulfuric acid (H₂SO₄) and exits the stack as sulfuric acid vapor. The Agency's analysis for today's notice assumes that all sulfuric acid emitted will be counted as emissions of sulfuric acid mist - an NSR-regulated pollutant.

Sulfuric acid mist is also regulated under NSR as PM_{2.5} (a criteria pollutant). Because PM_{2.5} is a criteria pollutant, the NSR requirements vary depending on the location of the unit experiencing the emission increase, *i.e.*, whether the unit is located in a nonattainment area. See further discussion of the Agency's analysis regarding

that SCR conditions also favor a reaction between SO₃ and ammonia that produces ammonium bisulfate which condenses to form solid PM, however the majority of this PM will be captured in the particulate control device installed at the unit. Any such increase in PM emissions would likely not be significant enough to trigger NSR review, even when considered together with the small increase in PM emissions that could occur from storage or handling lime, limestone,

permitting for these projects, below.

Although SCR retrofits can lead to increased sulfuric acid emissions, for the following reasons EPA expects that many units installing SCR for CAIR will not actually increase their sulfuric acid emissions and will therefore not incur any cost increase or timing burden associated with collateral increases of sulfuric acid:

Installing Both SCR and FGD

Many CAIR units that are expected to install SCR to reduce NOx emissions also are expected to install flue gas desulphurization (FGD) to reduce SO2 emissions, and FGD is also effective at reducing SO3/H2SO4 emissions. The two most common types of FGD systems (on which the Agency's CAIR cost-effectiveness analysis was based) are a lime-based spray dryer system (dry FGD) and a limestone-based wet FGD system (wet FGD). Considering the effectiveness of FGD at mitigating SO3/H2SO4 emissions, the Agency expects that a CAIR unit installing SCR and FGD at the same time would not increase sulfuric acid emissions significantly enough to trigger NSR.

Note that some units may switch to a higher sulfur coal when they install FGD. The combination of installing SCR

or FGD waste (see discussion below).

and dry FGD and switching to high sulfur coal may not result in increased sulfuric acid because dry FGD is very effective at mitigating SO₃/H₂SO₄. However, installation of SCR in combination with wet FGD and a switch to high sulfur coal could result in a significant net increase in sulfuric acid emissions.

Switching to Lower Sulfur Coal with SCR Retrofit

Some CAIR units that burn high sulfur coal may also choose to switch to lower sulfur coal when installing SCR. For units switching from high to low sulfur coal and installing SCR, there would likely be no net increase in sulfuric acid emissions.

Ceasing to Inject SO₃ with SCR Retrofit

Many CAIR units have cold-side electrostatic precipitators (ESP) in place to control particulate matter emissions. These control devices perform better with SO₃ present in the flue gas. Some units that have previously switched from higher- to lower-sulfur coal use injected SO₃ to bring the cold-side ESP performance back up. If such a unit installs SCR for CAIR, then the increased SO₃ from the SCR would lessen or obviate the need for SO₃ injection, and without the SO₃ injection there may be no net increase in sulfuric acid emissions.

2. Increases in Sulfuric Acid Emissions from Wet FGD

Retrofits in Combination with Switching to Higher Sulfur Coal

Many CAIR units are projected to install FGD to reduce SO₂ emissions. As discussed above, operation of dry or wet FGD reduces SO₃/H₂SO₄ emissions. However, some units installing FGD for CAIR may choose to switch to a higher sulfur coal at the time they install FGD. Dry FGD reduces SO₃/H₂SO₄ sufficiently to most likely mitigate any increase from the higher sulfur coal. Considering the lower SO₃/H₂SO₄ removal efficiency of wet FGD, however, the potential exists for sulfuric acid emissions to increase from units that install wet FGD and switch to higher sulfur coal.

3. Summary of Combinations of CAIR SCR and/or FGD Retrofits and Coal Switches that May Increase Sulfuric Acid Emissions

The following table summarizes combinations of SCR and/or FGD control retrofits and coal switches that may occur as a result of CAIR, and identifies which of these combinations could lead to increases in sulfuric acid emissions significant enough to trigger the NSR threshold.

Table III-1. Combinations of CAIR SCR and/or FGD and Coal Switches that May Increase Sulfuric Acid Emissions

Combinations of SCR and/or FGD and Coal Switches	Increase in Sulfuric Acid
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	Emissions?
Install SCR	Possible
Install SCR and switch from high to low sulfur coal	No
Install SCR with wet FGD (no coal switch)	No
Install SCR with wet FGD and switch to higher sulfur coal	Possible
Install wet FGD (no coal switch)	No
Install wet FGD and switch to higher sulfur coal	Possible
Install SCR and dry FGD	No
Install dry FGD	No

4. Technology Options Available for Mitigating Sulfuric Acid Emission Increases

Several technology options are available for mitigating sulfuric acid emission increases from CAIR retrofit projects. These include:

- Injecting alkali materials into the furnace;
- Injecting alkali postfurnace;
- Injecting ammonia;
- Fuel switching (e.g., firing lower sulfur coal);
- Selecting specialized SCR catalyst with a low SO₃ conversion rate;
- Installing wet ESP; and
- Installing FGD.

The Agency anticipates that some CAIR sources may choose to install emerging multipollutant control technologies designed to reduce not only SO₂ and NO_x but SO₃ and other pollutants as well. Generally, sources choosing

to employ such technologies would do so if they found it to be economical. Although EPA does not endorse the purchase or sale of any specific products and services mentioned, example multipollutant technologies include:

- Powerspan ECO Technology; and
- Mobotec USA Inc. ROTAMIX System.

5. Analysis of SO₃/H₂SO₄ Mitigation Costs and Timing Impacts for CAIR SCR and/or Wet FGD Projects

Cost Modeling for SO₃/H₂SO₄ Controls

The Agency used the Integrated Planning Model (IPM)⁶ to provide an upper-end estimate of the possible cost impacts for CAIR units that may install SO₃/H₂SO₄ controls. The EPA does not believe this analysis provides a true estimate of the costs to CAIR units of the NY v. EPA decision. Instead, EPA believes this analysis significantly overstates the potential costs. However because, this analysis shows that even when the costs are significantly overestimated they do not impact the analyses done for the final CAIR, EPA determined that a more refined analysis was not necessary to

⁶ The IPM is a multiregional, dynamic, deterministic linear programming model of the U.S. electric power sector. The Agency uses IPM to examine costs and, more broadly, analyze the projected impact of environmental policies on the electric power sector in the 48 contiguous States and the District of Columbia.

address petitioner's concerns.

The EPA believes this analysis overstates the likely true cost impact because, as explained below, it relies on several conservative assumptions. For example, we assumed that every unit that is projected to install SCR and/or wet FGD will incur increased costs for SO₃/H₂SO₄ mitigation.

Our cost analysis is based on the assumption that each unit that retrofits SCR and/or wet FGD will install wet ESPs for SO₃/H₂SO₄ mitigation.⁷ The Agency believes that the choice of SO₃/H₂SO₄ mitigation method would depend greatly on the specifics of the affected sources, thus it is difficult to predict control choices. For this cost analysis, EPA chose to model costs based on wet ESP because we believe the costs of this technology are representative of the costs of technologies that sources might choose to install.

The EPA performed an IPM sensitivity analysis in which we added costs for wet ESP to every unit that installs SCR and/or wet FGD. We based this sensitivity analysis on the

⁷ Although the Agency based this analysis on installation of wet ESP, the Agency is not making any determination or prediction regarding what the specific PSD/NSR requirements might be for these projects.

IPM model run that includes the CAIR, Clean Air Mercury Rule (CAMR) and Clean Air Visibility Rule (CAVR) requirements. Note that the IPM modeling for the final CAIR highly cost-effectiveness determination does not include the CAMR and CAVR requirements. However, the Agency subsequently conducted IPM modeling that reflects CAIR, CAMR and CAVR. The IPM analysis discussed in today's notice (which examines the possible cost impacts of SO₃/H₂SO₄ mitigation) is based on the modeling that includes CAIR, CAMR and CAVR because that modeling best reflects current requirements.⁸

As noted above, this modeling -- the SO₃/H₂SO₄ mitigation IPM sensitivity modeling -- overstates the possible cost impacts to CAIR units for several reasons. As discussed above, only the following three combinations of CAIR SCR and/or wet FGD retrofits might increase sulfuric acid emissions significantly to trigger the NSR threshold:

⁸ The two model runs (the final CAIR modeling or the subsequent modeling with CAMR and CAVR) use the same underlying base case assumptions in the same modeling platform. In other words, the two runs are based on identical assumptions for parameters such as (this is not an exhaustive list): EGU inventory, fuel prices, impacts of the national title IV SO₂ program, NO_x SIP program, State-specific programs, and NSR settlements. Note that projected marginal costs for CAIR SO₂ and NO_x reductions are about \$100 per ton less in the CAIR/CAMR/CAVR modeling than in the final CAIR modeling, due to interactions between the three programs.

units installing SCR alone (without switching to lower sulfur coal); units installing SCR with wet FGD and switching to higher sulfur coal; and, units installing wet FGD alone and switching to higher sulfur coal. The IPM sensitivity analysis conservatively assumes SO₃/H₂SO₄ mitigation costs are incurred by every unit projected to retrofit SCR and/or wet FGD. We note, however, that based on EPA's IPM modeling, for the first and second CAIR phases, respectively, only 16 percent and 11 percent of total CAIR-affected generating capacity (*i.e.*, capacity of units in CAIR States with capacity greater than 25 MW) are projected to retrofit in any of these three combinations that might increase sulfuric acid emissions significantly to trigger the NSR threshold.

Also, it is possible that units that inject SO₃ to improve cold-side ESP performance would cease injecting SO₃ after installing SCR which could result in the net SO₃ increase being insufficient to trigger NSR (as discussed above), however the Agency's IPM sensitivity does not take into account this possibility.

Additionally, the IPM sensitivity model run overstates the cost impacts to CAIR units because that modeling added SO₃/sulfuric acid mitigation costs for all units retrofitting SCR and/or wet FGD, including retrofits that

are projected to occur prior to commencement of CAIR retrofits (the Agency assumes that retrofits occurring prior to 2007 do not result from CAIR, but rather from existing programs such as the title IV SO₂ program and the NO_x SIP Call, however the IPM modeling does not account for this distinction). Further, our analysis overstates the cost impacts to CAIR units because the modeling includes retrofits that occur in the base case (without CAIR) and also includes the CAMR and CAVR requirements.

Further, in the IPM sensitivity analysis we assumed units would incur costs for year-round operation of wet ESP in all CAIR States, including the States that are only required to make ozone season NO_x reductions for CAIR. Finally, the IPM sensitivity run overstates the cost impacts because we added costs for wet ESP to each affected unit although SO₃/H₂SO₄ mitigation options are available that are less expensive than wet ESP.

Nonetheless, the Agency's cost analysis assumed that every unit that is predicted to install SCR and/or wet FGD in the CAIR/CAMR/CAVR modeling will incur additional costs for year-round operation of a wet ESP, in order to provide an upper-end estimate of the possible cost impacts of SO₃/H₂SO₄ mitigation.

Table III-2 shows the results of this analysis. It

compares the SO₂ and NO_x marginal costs in the SO₃/H₂SO₄ mitigation sensitivity analysis to the marginal costs in the final CAIR modeling (Table III-2 also shows marginal costs from the modeling that included CAIR, CAMR and CAVR).⁹ In the sensitivity analysis, the costs of SO₃/H₂SO₄ mitigation are reflected in the marginal costs of SO₂ and NO_x control.

Table III-2. SO₂ and NO_x Estimated Marginal Cost (1999\$ per ton)¹

	SO ₂ Annual		NO _x Annual	
	2010	2015	2009	2015
CAIR modeling used in final CAIR cost-effectiveness analysis	\$700	\$1,000	\$1,300	\$1,600
CAIR/CAMR/CAVR modeling	600	900	1,200	1,500
Sensitivity analysis with SO₃/H₂SO₄ mitigation (based on CAIR/CAMR/CAVR modeling)	700	900	1,600	2,000

¹ EPA IPM modeling is available in the docket. Projected costs are rounded to the nearest hundred dollars.

As shown in Table III-2, projected SO₂ marginal costs in the SO₃/H₂SO₄ mitigation sensitivity modeling are lower than the SO₂ marginal costs in the final CAIR modeling for 2015 and are about the same as the costs in the final CAIR for 2010. This does not imply that the added costs of SO₃/H₂SO₄ mitigation are so small as to have no effect on

⁹ As in the CAIR NFR (70 FR 25198), the Agency reports cost effectiveness results for both of the CAIR phases although

the marginal costs of SO₂ reduction. Rather, the added costs of SO₃/H₂SO₄ mitigation increase the SO₂ marginal cost from the level in the CAIR/CAMR/CAVR run a small amount. As explained above, marginal cost levels in CAIR/CAMR/CAVR modeling are lower than costs in the modeling in the CAIR final rulemaking. In the SO₃/H₂SO₄ mitigation sensitivity analysis, the 2010 cost is increased to about the level in the final CAIR modeling, and the 2015 cost increase is small enough that it is not apparent when the costs are rounded to the nearest hundred dollars. Including the added costs of SO₃/H₂SO₄ mitigation, the projected marginal costs of SO₂ reduction under CAIR remain at the lower end of the reference range of marginal costs cited in the Agency's CAIR cost-effectiveness determination. The range of marginal costs cited in CAIR is \$600 to \$2,200 per ton of SO₂ removed (70 FR 25201-25204).

As shown in Table III-2, projected NO_x marginal costs in the SO₃/H₂SO₄ mitigation sensitivity are higher than the costs in the final CAIR modeling. However, including the added costs of SO₃/H₂SO₄ mitigation, the projected NO_x marginal costs remain at the lower end of the reference

the Phase I CAIR control levels were determined based on feasibility rather than cost effectiveness.

range of marginal costs cited in the Agency's cost-effectiveness determination. The range of marginal costs cited in CAIR is \$2,000 to \$19,600 per ton of annual NOx removed (70 FR 25208-25210).

For the reasons discussed above, the Agency's analysis likely overstates the cost impacts of SO3/H2SO4 mitigation. Nonetheless, even with these projected cost impacts, the marginal costs remain at the low end of the range of costs cited in the final CAIR highly cost-effectiveness determination (70 FR 25201-25204, 25208-25210). Thus, that determination is not affected by the possible costs that may be incurred by units installing SO3/H2SO4 mitigation technologies. The Agency believes that average costs of SO2 and NOx control also would not increase significantly enough to impact the CAIR cost-effectiveness determination, because the projected marginal costs do not increase enough to impact the CAIR analysis.

The Agency discusses below its evaluation of the feasibility of installing SO3/H2SO4 mitigation measures, and the impacts of NSR analysis.

Feasibility and Timing Analysis

In its CAIR analysis, the Agency evaluated the feasibility of installing projected SO2 and NOx control retrofits in the CAIR timeframe. In particular, EPA

examined the availability of boilermaker labor to install retrofits during the period when the CAIR retrofits will occur and determined that sufficient labor will be available (70 FR 25215-25225). The Agency's CAIR analysis was discussed in detail in a TSD entitled "Boilermaker Labor and Installation Timing Analysis," OAR-2003-0053-2092 ("final CAIR boilermaker TSD").

The Agency has evaluated the potential impacts on the CAIR timeline from installation of SO₃/H₂SO₄ mitigation technologies. Specifically, we examined the impact of installing wet ESP on the availability of boilermaker labor during the time when control retrofits will be installed for the two CAIR phases. The EPA's analysis assumed that units that might experience sulfuric acid emission increases greater than the NSR threshold while incorporating NO_x and/or SO₂ controls for CAIR would choose to install wet ESP, which is a conservative assumption because SO₃/H₂SO₄ mitigation measures are available that would require less boilermaker labor than wet ESP. For this boilermaker labor analysis, the Agency used the identical assumptions regarding boilermaker availability factors (*i.e.*, boilermaker sources, population, average annual work hours, activity periods, and duty rates) that we used in the boilermaker analysis for the final CAIR. These factors are

defined in the final CAIR boilermaker TSD.

For today's notice, the Agency based its boilermaker analysis on the generating capacity that is projected to install NOx and SO2 controls that may increase sulfuric acid emissions (the three combinations of SCR and/or wet FGD retrofits and coal switches identified in Table III-1). The EPA examined the capacity of retrofits that are projected to occur during the time period when CAIR retrofits would occur for the two CAIR phases (*i.e.*, during the years 2007 through 2015 inclusive). This analysis includes retrofits projected to occur as result of the CAIR, CAMR and CAVR policies as well as retrofits for base case policies (*i.e.*, retrofits for existing regulatory requirements such as the title IV SO2 program and the NOx SIP Call) because some base case retrofits will occur during the time period 2007 through 2015.

In its analysis for the final CAIR, the Agency determined that adequate boilermaker labor would be available to complete the CAIR NOx and SO2 control retrofits in the CAIR timeline, with sufficient contingency factors available to offset possible additional labor needs due to unforeseen events. In the final CAIR, EPA considered a number of scenarios that included different assumptions for boilermaker duty rates (*i.e.*, the amount of time required

for a boilermaker to install control equipment), electricity demand and gas prices. In the most conservative scenario analyzed, EPA determined that there would be a 14 percent boilermaker labor contingency (*i.e.*, 14 percent more labor would be available than the amount required to install the controls). The boilermaker duty rates used for this case were provided by a commenter on the CAIR, were well above the levels determined to be appropriate in a detailed study conducted by EPA, and, based on EPA's investigations, reflected the worst-case assumptions for the boilermaker labor requirements associated with building air pollution controls. If the boilermaker requirements are estimated using EPA's boilermaker duty rates, the available contingency would be higher.

The revised boilermaker labor analysis that the Agency conducted for today's notice, which takes into account boilermaker labor required to install wet ESP, indicates that adequate boilermaker labor will be available even considering the additional boilermakers that may be needed to install the wet ESP. Considering the same assumptions that yielded a 14 percent contingency in the final CAIR along with additional boilermakers needed to install wet ESPs, EPA determined that there would be a 4 percent contingency. Again, if the boilermaker requirements are

estimated using EPA's boilermaker duty rates, the available contingency would be higher.

This analysis is conservative in that it assumes that in all cases where companies install equipment to mitigate SO₃/H₂SO₄ increases, they install wet ESPs, which use more boilermakers than other options such as sorbent injection. The remaining contingency factors are still adequate (although reduced). Thus, the NO_x and SO₂ control retrofits projected to be installed for CAIR can be completed in the available time, even considering the potential additional labor needs for SO₃/H₂SO₄ mitigation. Note that any SO₃/H₂SO₄ controls for CAIR projects can be retrofit concurrently with the SO₂ and NO_x retrofits, and no additional time would be needed. See further discussion of timing in the permitting section, below.

Details of EPA's revised boilermaker labor analysis are in a TSD in the docket entitled "Impact on CAIR Analyses of D.C. Circuit Decision in New York v. EPA."

The Agency believes that the impacts of mitigating the potential emission increases, or undertaking NSR review for these units, are not substantial enough to alter the CAIR highly cost-effective determination or the feasibility and timing analysis. Implications of NSR analysis for such units are discussed further below.

6. Increases in Carbon Monoxide and Unburned Carbon (Solid Particulate) Emissions from Combustion Controls

Combustion controls that may be installed for CAIR to reduce NO_x emissions include low NO_x burners (LNB) and overfire air (OFA). Both LNB and OFA reduce NO_x generation rates by changing the combustion process. Either one or both technologies may be installed on a generating unit to control NO_x emissions. Depending on the boiler design, these changes may result in an increase in emissions of carbon monoxide (CO) and unburned carbon (solid particulate), although the potential for increases significant enough to trigger the NSR threshold exists only with the use of OFA (because LNB does not affect the combustion process extensively).

These emissions increases can be minimized by using more modern control designs and techniques.^{10,11,12} These

¹⁰ T. Steitz, *et al.*, "Wall Fired Low NO_x Burner Evolution for Global NO_x Compliance," Foster Wheeler Website, http://www.fwc.com/publications/tech_papers/index.cfm#14905467952D7FCAFC2A5B206EAE10F0, website accessed on September 30, 2005.

¹¹ K. McCarthy, *et al.*, "Improved Low NO_x Firing Systems for Pulverized Coal Combustion," Foster Wheeler Website, http://www.fwc.com/publications/tech_papers/index.cfm#14905467952D7FCAFC2A5B206EAE10F0, website accessed on September 30, 2005.

increases can also be minimized by using less-aggressive OFA flow rates.¹³ The NOx removal efficiencies for combustion controls assumed in EPA's CAIR analysis are not aggressive.¹⁴ The Agency believes that units projected to install combustion controls can opt for moderate levels of OFA flow rates and still achieve the NOx reduction levels projected in our CAIR analysis, without causing significant increases in CO and unburned carbon emissions. Therefore, given the conservative removal efficiency assumptions in EPA's original analysis, there would be no additional significant costs associated with mitigating CO emissions to avoid NSR when combustion controls are added.

Certain affected CAIR sources are projected to install both combustion controls and SCR. These sources have the option to use combustion control designs ensuring minimal CO

¹² "Reducing Emissions of Nitrogen Oxides Via Low-NOx Burner Technologies," Clean Coal Technology, The Department of Energy, Topical Report No. 5, September 1996.

¹³ A. Kokkinos, *et al.*, "B&W's Experience Reducing NOx Emissions in Tangentially-Fired Boilers - 2001 Update," Power-Gen International 2001, December 11-13, 2001, Las Vegas, Nevada

¹⁴ The NOx removal efficiency for each type of combustion control used in EPA's analysis for CAIR was estimated as an average of the reported efficiencies for a large number of units equipped with these controls. In a unit equipped with

and unburned carbon impacts, with SCR compensating for the possible reduced performance of combustion controls.

Considering the potential of SCR technology to provide 90 percent NOx reduction with a minimum NOx rate of 0.06 lb/MMBtu, most of these sources would be able to use this strategy and avoid use of aggressive combustion control designs.

The affected CAIR sources also have the option to use an advanced OFA system with the potential to achieve high NOx reduction levels, with no increases in CO and unburned carbon levels. This technology utilizes rotating opposed fire air (ROFA) and has been installed or demonstrated at several plants worldwide.¹⁵

The Agency believes that there will be no increase in cost to CAIR units for using good combustion practices to mitigate CO and unburned carbon increases, because industry generally uses such practices already. Implementation of these practices would not affect the Agency's CAIR highly cost-effectiveness determination or the feasibility and timing analysis.

In addition, the implications of NSR analysis for such

both LNB and OFA, LNB provides a greater part of the overall NOx removal.

units are relatively minor, as discussed further below.

The Agency believes that the impacts of either mitigating the potential emission increases, or undertaking NSR review for these units, are not substantial enough to affect the CAIR highly cost-effective determination or the feasibility and timing analysis. Implications of NSR analysis for such units are discussed further below.

7. Increases in Direct PM_{2.5} Resulting from Fugitive Emissions from Storage or Handling of Lime, Limestone, or FGD Waste after Installation of Dry or Wet FGD

As discussed above, dry and wet FGD are effective SO₃/H₂SO₄ mitigation options. A separate consideration, however, is the potential for increased emissions of direct PM (including PM_{2.5}) resulting from the storage and handling of lime or limestone for the FGD and from hauling FGD waste.

The EPA believes that operation of FGD will not result in significant increases of emissions of direct PM (including PM_{2.5}). Fugitive PM emissions resulting from the storage and handling of lime or limestone and from waste hauling associated with FGD operation are minimal since most lime and limestone will be stored in covered structures with particulate controls, lime and limestone will be transported

¹⁵ MOBOTECUSA website, <http://www.mobotecusa.com/>

in covered vehicles, and particulate emissions mitigation techniques, including spraying near storage areas, hauling roads, and waste hauling trucks, will be employed. Fugitive emissions could result from dust recirculation due to truck hauling, but these emissions are also not significant enough to trigger NSR.

The Agency believes that the impacts of either mitigating these small potential emission increases, or undertaking NSR review for these units, are not substantial enough to affect the CAIR highly cost-effective determination or the feasibility and timing analysis.

8. Collateral Air Pollutant Emissions from Units Switching from High to Low Sulfur Coals

A switch from high- to low-sulfur coals is an option projected to be used by certain CAIR sources for SO₂ control. In some cases, modifications to the existing equipment may become necessary to maintain compatibility with the boiler and associated systems. One of the more common modifications required is the need to restore the existing ESP performance, which may be degraded due to the high-resistivity ash generated from firing of low-sulfur coals (if ESP performance is not restored, emissions of PM might increase). In general, use of a flue gas conditioning

system fully restores the ESP performance to levels obtained from firing of high-sulfur coals.

The impact of coal switching on the existing plant equipment would vary with the amount of switch. For example, if only a portion of the existing high-sulfur coal is replaced with the new low-sulfur coal, the impact may be minimal. Also, use of certain types of low-sulfur coals may even have a beneficial impact on some of the NSR-regulated pollutants. For example, use of western sub-bituminous coals may result in a reduction in the CO and unburned carbon levels, because of the high volatile contents of such coals.

In the CAIR analysis, EPA assumed that the sources opting to switch to low-sulfur coal would either select compatible coals or provide modifications where required to avoid any adverse impacts on their boilers, including minimization of any increases in air emissions. The EPA included costs for such modifications in its estimates for the CAIR implementation, which were based on the coal switch experience for the power industry. Therefore, no further analysis is necessary.

9. Summary of Section III.B.

EPA's IPM modeling predicts that some CAIR units will add controls with the potential to increase collateral

emissions of NSR-regulated pollutants. However, the Agency has determined that for each of the NO_x and SO₂ controls on which EPA based its CAIR highly cost-effectiveness determination, there are technology options available to mitigate potential collateral increases of NSR regulated pollutants such that many sources, looking to comply with the CAIR requirements, would not trigger NSR review for potential collateral increases (however, some sources may not be able to ensure mitigation of all collateral increases). Further, although some additional cost may be associated with mitigation measures, EPA's analysis showed that these costs do not change the conclusions of EPA's highly cost-effectiveness determination. In addition, implementing these mitigation measures will not affect the feasibility of implementing the CAIR reductions in the required timeframe. Options exist that would allow units to meet the CAIR deadlines without changing plans to stagger PCP projects. For example, a unit planning to install SCR first and FGD later could choose to use sorbent injection technology to mitigate SO₃/H₂SO₃ during the time between installation of the SCR and the FGD.

C. Potential Impact of NSR Permitting

Although the above analysis shows that sources installing controls for CAIR generally will have options to

avoid triggering NSR review for potential collateral increases, EPA also analyzed the potential impact on its CAIR analyses of sources whose projects could result in a net emissions increase despite mitigative measures that might be taken, and might therefore apply for and obtain the necessary NSR permits to address such increase. Accordingly, EPA analyzed whether sources undergoing NSR permitting would have adequate time to obtain the preconstruction permit and whether any controls required would impact EPA's highly cost-effective analysis done for CAIR. The Agency intends to work with the States to quickly resolve any questions regarding permitting of CAIR pollution control projects, and will provide technical assistance when requested to facilitate permitting.

In its analysis for the final CAIR, the Agency assumed that affected sources would have about 22 months available for preconstruction activities (e.g., permitting, planning, conceptual design, engineering, financing, and procurement) for the first phase of CAIR control retrofits. The 22 months is based on the time from the CAIR promulgation date (March 10, 2005) until about 4 months after the SIP

submission date (about mid-January 2007)¹⁶. The New York v. EPA judicial decision was issued on June 24, 2005. As a result of that decision, either CAIR sources will need to mitigate emissions through one of the various options discussed above, or they may choose to apply for NSR permits. Sources that elect to obtain NSR permits then would have almost 19 months for NSR review for the first CAIR phase (from the date of the New York v. EPA decision until about mid-January 2007). The Agency believes that this is adequate time to perform NSR review, as explained further below, thus the CAIR timeline would not be impacted.

In the CAIR, the Agency determined highly cost-effective amounts of emission reductions based on modeled costs of SO₂ and NO_x mitigation, using IPM. The IPM cost modeling used in EPA's analysis reflects the capital and operations and maintenance costs of control technologies. The modeling does not include costs associated with permitting. Costs for permitting are insignificant compared to costs of constructing and operating these controls technologies.

Prior to the D.C. Circuit decision to vacate the PCP

¹⁶ "Boilermaker Labor Analysis and Installation Timing," March 2005, discusses the Agency's projected schedules for

provisions in the NSR program, EGUs desiring to use the PCP exclusion were required to either provide notice to the Administrator (for certain projects listed in the regulations) or submit a permit application to obtain approval to use the exclusion. This process had requirements very similar to those that apply to sources subject to NSR review. The basic steps for sources undergoing NSR review are:

- a. Preparation of the permit application and participation in any pre-permit application meetings;
- b. Issuance of permit application completeness determination by the regulatory agency;
- c. Development and negotiation of the draft permit;
- d. Opportunity for public notice and comment on the draft permit;
- e. Response by the regulatory agency to public comments; and
- f. Possible administrative and judicial appeals.

Of these steps, the bulk of the effort is concentrated in the beginning steps with the preparation of the permit application and collection and analysis of the data necessary to demonstrate that the project would not present

CAIR SCR and FGD retrofits (OAR-2003-0053-2092).

problems with the NAAQS. The PCP exclusion did not excuse a source from undergoing a similar analysis in order to obtain the PCP determination. Specifically, under the new source review rules of 2002 (67 FR 80186), a source seeking to use the PCP provisions for one of the listed technologies would automatically qualify for the exclusion if it could demonstrate that there was no adverse air quality impact, that is, if it would not cause or contribute to a violation of NAAQS or PSD increment, or adversely impact an air quality related value (AQRV), such as visibility, that had been identified for a Federal Class I area by a Federal Land Manager (FLM). In performing the air quality analysis under the PCP provision, the procedures established for conducting air quality analysis in conjunction with typical NSR permitting were used. As such, the up front burden associated with undergoing NSR review is comparable to the burden to which a source requesting a PCP exclusion would have been subject.

Once the permit application is complete, whether processed as a PCP exclusion request or as a formal PSD permit application, the processing by the permitting authority usually does not take any longer under the formal PSD process than under the previous PCP exclusion process. Typically, in the formal NSR permitting process, once the

application is submitted to the permitting authority, there is a process during which the draft permit is developed and published to give the public an opportunity to comment on the draft permit. Depending on the comments received, some changes to the draft permit may be made and a final permit would then be issued to the source. Based on the permitting authorities' experience, this process typically takes approximately six to eight months. In the case of permits issued for the construction of pollution control projects on CAIR units, we see no reason why the process should require a longer time period than is normally required.

In addition, we do not believe that the PSD requirement for submitting pre-application monitoring data will cause a delay in submitting the required PSD permit applications as the petitioner alleges. The relevant provision which requires the applicant to include 12 months of continuous ambient air quality data allows applicants to rely on ambient air quality data that has already been collected and is representative of the air quality in the vicinity of the affected source. Moreover, such data is only required when the source's emissions increase is predicted to exceed the prescribed significant monitoring value for that pollutant. See 40 CFR 52.21(i)(5). Thus, sources generally will not have to take the time to collect such data on their own when

it is required. In the few cases, if any, where it is the applicant's burden to collect the data, we believe they will have adequate time to do so while the overall project to comply with CAIR is being developed without delaying the necessary permit application.

For sources that requested a PCP exclusion from the list of approved projects (67 FR 80246), the timeline could have been very similar in duration to the one described above for sources undergoing NSR review. The projects included on the list were presumed to be environmentally beneficial based on the premise that the source seeking the PCP exclusion would design and operate the controls in a manner that would be consistent with proper industry, engineering, and reasonable practices, and that the source would minimize increases in collateral pollutants within the physical configuration and operational standards usually associated with the emissions control device or strategy. The source seeking the PCP exclusion would have been required to certify that this was true in the notification sent to the reviewing authority. It is important to highlight that the environmentally beneficial determination for the listed projects was a presumption, and as such, it could be rebutted in cases in which a reviewing authority determined that a particular proposed PCP project would not

be environmentally beneficial.

Before a source requesting a PCP exclusion could have begun actual construction of the PCP, it was required to submit a notice to the reviewing authority that included the following information (and depending on the reviewing authority's requirements, this information could have been submitted with a part 70, part 71 or other SIP-approved permit application such as a minor NSR permit application): (1) A description of project; (2) an analysis of the environmentally beneficial nature of the PCP, including a projection of emissions increases and decreases (speciated, using an appropriate emissions test for the emissions unit); and (3) a demonstration that the project will not have an adverse air quality impact. Often, a screening model could be used to estimate the ambient impacts of the increase from the facility as a result of the PCP. Special attention would have been given in cases where a FLM had already identified adverse impacts for an AQRV. In such cases, the facility requesting the PCP exclusion would have been expected to record and consider any information that the FLM had made available concerning the adverse effects, to help determine whether the pollutant impacts from the collateral emissions increase had the potential to cause further adverse impacts.

If the requested PCP was included in the list of projects presumed to be environmentally beneficial, the source requesting the PCP exclusion would have been allowed to begin construction on the PCP immediately upon submitting the required notice to the reviewing authority. However, if the reviewing authority determined that the source did not qualify for a PCP exclusion, the source might have been subject to a delay in the project or an order to not undertake the project. If the reviewing authority, upon receiving the notification of using the PCP exclusion, determined that an air quality impacts analysis was reasonably necessary, it was entitled to request more information from the source, including additional local or regional modeling.

Pollution control projects of the magnitude at issue here will require large capital expenditures and significant engineering lead times. We believe that in most cases, the internal procedures within each company to request, approve, and allocate the necessary funding and then design and construct the control equipment will be at least as long as the average permit application and approval process.

Additional requirements that may result from NSR review

As discussed in previous sections, sources installing controls to comply with CAIR that experience collateral

emissions increases of some NSR regulated pollutants likely would have requested a PCP exclusion. In particular, sulfuric acid mist emissions and CO emissions are the two pollutants expected to be of most interest.

For emissions of CO, the Agency is aware of previous PSD permits that have been processed by permitting authorities that demonstrated no NAAQS problems, while requiring no additional add-on controls for the CO emissions. The PSD permits given to these sources included Best Achievable Control Technology (BACT) emissions limits for CO where in most cases such limits did not previously exist. Most of these limits have been set at or near the level where the utility has historically operated or was anticipated to operate. This is the case because there is no technically feasible add-on control technology for controlling CO emissions from coal-fired boilers other than good combustion practices.

For emissions increases of sulfuric acid mist, NSR permitting analysis treats sulfuric acid mist as a NSR-regulated pollutant and also as a component of PM_{2.5} (a criteria pollutant). The Agency conducted an analysis of the information available for EGUs that have undergone NSR review and that included a determination of controls (BACT or Lowest Achievable Emission Rate (LAER)) for sulfuric acid

mist. The analysis showed that pollution prevention measures (such as low sulfur fuel) and add-on controls (such as flue gas desulfurization or FGD) were cited in about two thirds of the determinations, while about one third resulted in no additional control. As previously stated, both switching to low sulfur coal and the use of FGD are common techniques available for CAIR units to minimize collateral emissions increases due to the installation of CAIR-related controls. As a result, we expect that a source going through NSR for significant net emissions increases in sulfuric acid mist due to CAIR controls would be required to install technology similar, if not identical, to those presented here as available mitigation techniques to avoid NSR review.

Because sulfuric acid mist emissions are also a component of PM_{2.5}, EPA also looked at what, if any, additional PM_{2.5} controls would be required for sources required to undergo NSR should a significant emissions increase of PM_{2.5} occur. For CAIR emissions units located in non-attainment areas, we also believe that the result of the LAER analysis for these units will result in control technologies similar, if not identical, to those listed as available mitigation techniques. In addition to the LAER

requirements, CAIR sources required to meet nonattainment area NSR would be required to obtain emissions reductions to offsets their significant emissions increase of PM_{2.5} emissions as part of non-attainment NSR permit process. We believe PM fine offsets will be widely available for any of these projects located in non-attainment areas. In the PM Implementation Rule (70 FR 66042) we proposed to allow units to use decreases in PM fine precursor emissions as offsets for direct PM fine emission increases. Units installing controls to comply with CAIR will have very large decreases in PM fine precursors (SO₂ and NO_x). These decreases are so large that we believe the decreases in PM fine precursor emissions from other CAIR units will provide sufficient offsets for the significantly lower potential increases in direct PM fine emissions. As such, we believe that the impact for undergoing NSR review on these sources would be minimal, as described above.

For projects located in attainment areas, a situation similar to when a source is required to install controls for acid mist is expected. That is, when a source in an attainment area goes through NSR review for PM_{2.5} as a result of a collateral increase due to the addition of CAIR controls, we expect the required control technology to be similar, if not identical, to those listed as available

mitigation techniques for sources wanting to avoid NSR review. As such, we believe that the impact for undergoing NSR review on these sources would be minimal, as described above.

In conclusion, the Agency believes that the impacts of choosing to undertake NSR review for these units are not substantial enough to affect the CAIR highly cost-effective determination or the feasibility and timing analysis.

The EPA generally does not believe that the PCP requirements under NSR will pose a problem. This is because either companies will make control decisions that will not result in collateral pollution increases or the NSR process will not delay installation of pollution controls. Even if there were a small number of cases in which NSR requirements delayed control installations beyond the compliance dates for CAIR, EPA does not believe that this would change its conclusions about the cost effectiveness of the required emission reductions. The cost effectiveness is not significantly impacted because the trading mechanisms within CAIR provide flexibility if small numbers of sources are unable to install controls by the compliance deadlines.

IV. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether the regulatory action is "significant" and, therefore, subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, OMB has determined that this is not a significant regulatory action. This notice takes comment on an aspect of the CAIR, but does not propose any modifications.

B. Paperwork Reduction Act

This action does not propose information collection request requirements under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. Therefore, an information collection request document is not required.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act generally requires an Agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedures Act or any other statute unless the Agency certifies the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's proposed rule on small entities, small entity is defined as: (1) a small business that is a small industrial entity as defined in the U.S. Small Business Administration (SBA) size standards. (See 13 CFR part 121.); (2) a governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This notice does not impose any requirements on small entities. We are only announcing our

decision to reconsider and request comment on a specific issue in the CAIR. We continue to be interested in the potential impacts of the rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and Tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures by State, local, and Tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, UMRA section 205 generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least-costly, most cost-effective, or least-

burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed, under section 203 of the UMRA, a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA's regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that today's notice of reconsideration does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any 1 year. Today's notice of reconsideration of the CAIR does not add new requirements that would increase the cost of the CAIR. Thus, today's notice of reconsideration is not subject to the requirements of sections 202 and 205 of the UMRA. In addition, EPA has determined that today's notice of reconsideration does not significantly or uniquely affect small governments because

it contains no requirements that apply to such governments or impose obligations upon them. Therefore, today's notice of reconsideration is not subject to section 203 of the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

This action does not have federalism implications. It would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The CAA establishes the relationship between the Federal Government and the States, and this

action would not impact that relationship. Thus, Executive Order 13132 does not apply to this action.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by Tribal officials in the development of regulatory policies that have Tribal implications."

For the same reasons stated in the final CAIR, today's notice does not have Tribal implications as defined by Executive Order 13175. It does not have a substantial direct effect on one or more Indian Tribes, since no Tribe has implemented a federally-enforceable air quality management program under the CAA at this time. Furthermore, this action does not affect the relationship or distribution of power and responsibilities between the Federal government and Indian Tribes. The CAA and the Tribal Air Rule establish the relationship of the Federal government and Tribes in developing plans to attain the NAAQS, and today's notice does nothing to modify that relationship. Because this notice does not have Tribal implications, Executive

Order 13175 does not apply.

If one assumes a Tribe is implementing a Tribal implementation plan, the CAIR could have implications for that Tribe, but it would not impose substantial direct costs upon the Tribe, nor would it preempt Tribal Law.

Although Executive Order 13175 does not apply to the CAIR or this notice of reconsideration of the CAIR, EPA consulted with Tribal officials in developing the CAIR.

G. Executive Order 13045: Protection of Children from Environmental Health and Safety Risks

Executive Order 13045: "Protection of Children From Environmental Health and Safety Risks" (62 FR 19885, April 23, 1997) applies to any rule that (1) is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This notice is not subject to Executive Order 13045

because it does not involve decisions on environmental health risks or safety risks that may disproportionately affect children. The EPA believes that the emissions reductions from the CAIR will further improve air quality and children's health.

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This rule is not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355 (May 22, 2001)) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer Advancement Act of 1995, Public Law No. 104-113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The National Technology Transfer Advancement Act of

1995 directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

Today's notice does not involve technical standards. Therefore, the National Technology Transfer and Advancement Act of 1995 does not apply.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires Federal agencies to consider the impact of programs, policies, and activities on minority populations and low-income populations. According to EPA guidance,¹⁷ agencies are to assess whether minority or low-income populations face risks or a rate of exposure to hazards that are significant and that "appreciably exceed or is likely to appreciably exceed the risk or rate to the general population or to the appropriate comparison group." (EPA, 1998).

¹⁷ U.S. Environmental Protection Agency, 1998. Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses. Office of Federal Activities, Washington, D.C., April, 1998.

In accordance with Executive Order 12898, the Agency has considered whether the CAIR may have disproportionate negative impacts on minority or low income populations. The EPA expects the CAIR to lead to reductions in air pollution and exposures generally. Therefore, EPA concluded that negative impacts to these sub-populations that appreciably exceed similar impacts to the general population are not expected. For the same reasons, EPA is drawing the same conclusion for today's notice to reconsider a certain aspect of the CAIR.

List of Subjects

40 CFR Part 51

Administrative practice and procedure, Air pollution control, Intergovernmental relations, Nitrogen oxides, Ozone, Particulate matter, Regional haze, Reporting and recordkeeping requirements, Sulfur dioxide.

40 CFR Part 96

Administrative practice and procedure, Air pollution control, Electric utilities, Nitrogen oxides, Reporting and recordkeeping requirements, Sulfur dioxide.

Dated

Stephen L. Johnson
Administrator